Color: Ash gray above, except unpigmented and translucent in spaces between rostral ridge and anterior rays of pectorals; orbits dusky, terminal expansion of snout narrowly and irregularly margined with black, also the posterior part of the back with a sooty blotch on one side near midline, perhaps the result of injury. Lower surface pale grayish white, the outer posterior belt of pectorals sooty gray, terminal expansion of snout narrowly and irregularly edged with black; tail sooty at base.

Development stages.—Presumably *Springeria* is oviparous like other rajids, but its eggs have not been seen yet.

Size.—How large this skate may grow is not known, for the larger of the two specimens seen so far, 400 mm long to base of terminal filament, is an immature male, its claspers not yet reaching as far as the tips of its pelvics.

Habits.—The two specimens seen so far were trawled at 232–258 fathoms, this with the improbability that this skate would have been overlooked if it occurred in shallow water, suggests that it is confined to depths greater than about 200 fathoms. Nothing else is known of its habits.

Range.—So far known only in the northern side of the Gulf of Mexico off the Mississippi River, at the localities listed on page 112 under Study material.

ORNITHOLOGY.—*Race names in the Central American jay,* Cyanolyca argentigula.

Frank A. Pitelka, Museum of Vertebrate Zoology, University of California. (Communicated by H. G. Deignan.)

The silver-throated jay, *Cyanolyca argentigula,* is a species of restricted distribution in montane forests of Central America, and at present two rather well marked races are recognized, *C. a. argentigula* (Lawrence) in central Costa Rica and *C. a. blandita* Bangs in northern Panama. When Bangs (Proc. Biol. Soc. Washington **19:** 109. 1906) described the latter from the Volcán de Chiriquí, he evidently did not see Lawrence's type of *argentigula* and assumed from Lawrence's description (Ann. Lyc. Nat. Hist. New York **11:** 88. 1873) that the latter referred to specimens with white throats rather than to those with violet-gray throats. Specimens of the white-throated form, representing *argentigula* as now known, were then and are now more numerous in collections than specimens of the gray-throated form, *blandita.* Reading of Lawrence's description in the light of current knowledge of the two races will reveal that the original description, rather vague as regards critical details, suggests *argentigula* more than it does *blandita.* Ridgway's description (*Birds of North and Middle America,* pt. 3: 319. 1904), based on specimens from both northern Panama and central Costa Rica, applies to and includes both races as now recognized. From these considerations Bangs, in 1906, evidently described *blandita* on the assumption that Lawrence's name applied to the best-known population, that of central Costa Rica. The type of *argentigula,* however, which I examined in Washington, D. C., in December 1949, so closely resembles the type of *blandita,* examined in Cambridge two months earlier, that both evidently represent one and the same race.

Interestingly enough, the basic facts concerning the type of *argentigula* were published in 1889 by Ridgway (Proc. U. S. Nat. Mus. **11:** 541), when he compared it with specimens from the Volcán Irazú and stated: "Compared with the type [four adults] all have the throat-patch decidedly paler, its color being silvery white with a very faint purplish tinge, instead of light silvery grey, with a very strong tinge of purplish blue." Differences in the crown-band are also fully and correctly described by Ridgway. These are the differences used by Bangs to distinguish *blandita.*

There is ample evidence to support that provided by the types themselves. In the specimen register of the United States National Museum, the information on the type of *argentigula,* no. 67963, is as follows: Original number 320, female [inverted Venus's mirror sign on original label indicates female, as collector used usual sign for male], Talamanca, Costa Rica, received from William M. Gabb. In a subsequent entry, C. W. Richmond added the details that the speci-

men was collected by Juan Cooper, in May or June 1874. In Cooper's original catalogue, field numbers 315–320 are listed under the locality heading "En Camo," a phrase of unclear meaning (see beyond). Immediately following 320, however, is the locality heading "Cipurio" [=Sipurio]. Cooper's catalogue carries no dates, but the listing is chronological.

It seems clear that the type was obtained near Sipurio in southeastern Costa Rica, near the Panama border, and on the Caribbean slope of the Cordillera de Talamanca. From present-day knowledge of the altitudinal distribution of *C. argentigula*, we can say that the type was collected well above that lowland town. From a brief account published by Gabb in 1874 (Amer. Journ. Sci. **108:** 388–390), it is known that in the course of a four months' journey into Talamanca, he reached the summit of Pico Blanco, a major peak above and south of Sipurio, on June 13 of that year. In another account, also written in 1874 (see pp. 267–286, Geografía de Costa Rica, by F. Montero Barrantes, Barcelona, 1892), Gabb outlines the route of his ascent between the ríos Urén and Lari, thence across the latter and upward to the summit. The descent was apparently made between the ríos Lari and Deparí, or at least to the northwest of the ascent.

Gabb was accompanied in Talamanca by Juan Cooper, and from Cooper's catalogue and probably other clues, Richmond deduced that the specimens listed under the heading "En Camo" were obtained in May or June 1874. "En Camo" probably means "en camino." The former is the only locality heading used by Cooper other than "Cipurio," which precedes and follows "En Camo."[1]

It thus seems very likely that Lawrence's type was collected near and more or less north of Pico Blanco, above Sipurio and probably in the drainage of the Río Lari. This may be considered the restricted type locality of *Cyanocitta argentigula* Lawrence. The geographic details are given on a map accompanying Carriker's report on Costa Rican birds (Ann. Carnegie Mus. **6:** 314–915. 1910), on which trails leading above Sipurio are indicated.

According to Goodwin (Bull. Amer. Mus. Nat. Hist. **87:** 279. 1945), the major faunal break in the highland faunas of Costa Rica appears to follow the valley of the Río Reventazón, which, with the Río Grande de Tárcoles, separates the Cordillera Central (including Volcán Irazú and Volcán Turrialba) from the Cordillera de Talamanca. Faunal affinities of the latter range are to the south with Panama, at least among mammals (Goodwin, *loc. cit.*).

We now have these facts: The type of *argentigula* shares with *blandita* the pale violet-gray throat and crown-band coloration which Bangs used to distinguish the latter race from the former. Cooper obtained the type of *argentigula* in montane highlands continuous with those inhabited by *blandita* but separated from mountains inhabited by the white-throated race to the north. *Cyanolyca blandita* Bangs is thus a synonym of *Cyanocitta argentigula* Lawrence, and the name formerly applied to the northern race unfortunately must now be applied to the southern race, including, as it has not heretofore, the population of southern Costa Rica. The northern race, left without a name, may be known as—

Cyanolyca argentigula albior, n. name

Type.—Adult male, U. S. N. M. no. 209407, Volcán Turrialba, 9,680 feet, Costa Rica, March 28, 1908, collected by R. Ridgway and J. C. Zeledón, original number 582. Measurements of the type: Wing (chord), 118 mm; tail, 126; bill length (from nostril), 17.6; bill depth (at nostril), 10.1; tarsus, 35.3.

Racial characters.—Compared with *C. a. argentigula* of northern Panama and southern Costa Rica, throat lighter and less purplish (silvery white); transverse band on crown also lighter (silvery white), tinged marginally with pale lavender, but less brightly; supraauricular stripe lighter; wings and tail less purplish (Nigrosin Blue); size probably smaller (see table 1).

Geographic distribution.—Cordillera Central of Costa Rica [Volcán Irazu, Volcán Turrialba, La Hondura, Puente de Tierra, Retes, San Isidro de San José, and San Pedro (de Póas?)].

[1] Gabb was a paleontologist, and I do not know of any evidence clearly indicating that some of the specimens credited to him (for example, by Goodwin, Bull. Amer. Mus. Nat. Hist. **87:** 455. 1945) were collected by him personally.

So far as I can determine now, other than Lawrence's type, none of the specimens of a total of 87 examined by me comes from the mountains of southern Costa Rica, south of the ríos Pirrís and Reventazón. Six specimens bearing the locality "Limon," a Caribbean seaport, were not obtained there but elsewhere and possibly in the province of Limón, which includes the Talamanca district and the Caribbean slopes of the Talamanca Range. But the specimens from "Limon" resemble those from the Cordillera Central and are assigned to *C. a. albior*. Nevertheless, the possibility remains that intergradation of characters occurs at the north end of the Cordillera de Talamanca.

Acknowledgement is gratefully made to H. G. Deignan, United States National Museum, for critical assistance in the preparation of this paper. Helpful suggestions were also received from J. L. Peters, Museum of Comparative Zoology. Specimens from the following collections were examined: American Museum of Natural History, British Museum, Carnegie Museum, Chicago Natural History Museum, H. O. Havemeyer, Museum of Comparative Zoology, Royal Ontario Museum of Zoology, United States National Museum, University of California (Dickey collection), and University of Michigan (Museum of Zoology). I am indebted to the curators and owners of these collections for their kind cooperation. This paper results from researches supported by a John Simon Guggenehim Fellowship held in 1949–50.

Table 1.—Measurements of Adults of Cyanolyca argentigula

Race	Sex	Number of specimens	Range	Mean with standard error	Standard deviation[1]
C. a. albior:					
Wing	Males	31	112–123	118.2 ± 0.5	3.0
	Females	15	111–120	115.4 ± 0.8	3.0
Tail	Males	30	118–134	124.5 ± 0.8	4.1
	Females	14	116–126	121.4 ± 1.0	3.7
Bill length	Males	31	16.2–18.6	17.42 ± 0.10	0.57
	Females	15	15.8–18.7	16.80 ± 0.25	0.95
Bill depth	Males	31	8.8–10.1	9.31 ± 0.07	0.38
	Females	14	8.3– 8.9	9.14 ± 0.11	0.42
Tarsus	Males	32	32.7–35.7	34.15 ± 0.13	0.76
	Females	15	32.0–34.5	33.24 ± 0.18	0.70
C. a. argentigula:					
Wing	Males	6	119–127	121.8 ± 1.2	2.9
	Females	4	116–125	119.7	3.6
Tail	Males	6	122–141	129.5 ± 2.7	6.5
	Females	4	125–132	128.5	3.5
Bill, length	Males	6	17.1–18.6	17.80 ± 0.26	0.63
	Females	4	16.4–18.1	17.95	0.83
Bill, depth	Males	5	9.6–10.6	9.85 ± 0.17	0.39
	Females	4	9.0–10.2	9.70	0.55
Tarsus	Males	6	33.8–37.3	35.35 ± 0.62	1.52
	Females	4	32.1–35.2	33.95	1.42

[1] In samples of less than 30 specimens, N-1 was used in calculation of standard deviation.

PROCEEDINGS OF THE ACADEMY

443d meeting of board of managers

The 443d meeting of the Board of Managers, held in the Cosmos Club on January 16, 1951, was called to order at 8:07 p.m. by the President, F. B. Silsbee. Also present were: N. R. Smith, H. S. Rappleye, J. A. Stevenson, H. A. Rehder, A. T. McPherson, W. R. Wedel, J. S. Williams, F. O. Coe, F. A. Weiss, W. A. Dayton, C. A. Betts, R. S. Dill, E. W. Price, Margaret Pittman, H. W. Hemple, F. M. Setzler, and, by invitation, R. G. Bates, T. D. Stewart, M. A. Mason, Walter Ramberg, and B. D. Van Evera.

The Committee on Membership submitted the names of four individuals proposed for resident membership. Seventeen persons previously proposed were elected, 14 to resident and 3 to nonresident membership.

The President announced that all arrangements had been completed for the Annual Meeting to be held at the Kennedy-Warren on January 18, 1951, at which time Dr. Per K. Frolich would address the Academy.